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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,788	06/13/2006	Hitoshi Ono	Q95452	5946
23373 7590 12/27/2010 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
EXAMINER				
GOFF II, JOHN L				
ART UNIT		PAPER NUMBER		
1746				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/582,788

Applicant(s)

ONO ET AL

Examiner

John L. Goff

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 1-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to the amendment filed on 10/29/10.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

3. Applicant's election without traverse of Group II, claims 14-19, in the reply filed on 10/29/10 is acknowledged.

Claim Rejections - 35 USC § 103

4. Claims 14, 15, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over in view of Kikuchi (JP 2001-348786 and see also the machine translation) in view of Takebe et al. (U.S. Patent 6,096,380), Hanada et al. (U.S. Patent 4,853,418), Retzsch (U.S. Patent 4,018,559), or Sagiv et al. (U.S. Patent Application Publication 2002/0002232).

Kikuchi discloses a process for the production of a leather-like sheet material by attaching a fibrous substrate and an elastomeric film layer, e.g. comprising polyurethane, to each other by applying a treatment liquid (A) to the attachment surface of the fibrous substrate wherein the liquid (A) is a water solution or water dispersion of an elastic, e.g. polyurethane-based, polymer adhesive and contains a water repellant such as a silicon system, attaching the fibrous substrate and the elastomeric film layer so that the liquid (A) infiltrates into the fibrous

substrate, and drying the liquid (A) (Paragraphs 0001, 0009, 0013, 0021-0023, 0028, and 0032-0034).

In the event the combined use of the specific materials, e.g. elastomeric film layer comprising polyurethane, polyurethane-based elastic polymer, and silicon system, taught by Kikuchi is considered picking and choosing from more than one list wherein Kikuchi does not necessarily expressly disclose the combination set forth above. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the elastomeric film layer and water solution or water dispersion of an elastic polymer taught by Kikuchi any of the specific materials suggested by Kikuchi in any combination including that set forth above as Kikuchi does not require or teach away from any specific combination.

Kikuchi does not expressly describe the silicon system other than the system is a water repellant. Conventional silicon system water repellants include a reactive H-silicone compound containing Si-H groups such as methyl hydrodiene silicone as shown by Takebe (Column 6, lines 36-57 and Example 3) and silicone oil expressly known for a leather-like sheet as evidenced by Hanada (Column 1, lines 9-16 and Columns 3-6) or Retzsch (Column 2, lines 37-40). Alternatively, it was known in the art that an adhesive of a water dispersion of an elastic polymer similar to that taught by Kikuchi contain a silicone compound to prevent air entrapment during processing and to provide a smooth adhesive layer as shown by Sagiv (Paragraphs 0002 and 0035). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the water repellant in Kikuchi a silicone compound as was conventional in the art as evidenced by Takebe, Hanada, or Retzsch. Alternatively, it would have been obvious to include in the adhesive of a water dispersion of an elastic polymer taught by Kikuchi known

additives for similar compositions such as a silicone compound as shown by Sagiv to prevent air entrapment during processing and to provide a smooth adhesive layer.

Regarding claim 15, Kikuchi applies the treatment liquid (A) which is a water solution or water dispersion of a polyurethane-based elastic polymer to the attachment surface of the fibrous substrate. Kikuchi then contacts the attachment surface of the elastomeric film layer with the attachment surface of the fibrous substrate coated with liquid treatment (A) which coating is considered a treatment liquid (B) applied to the attachment surface of the elastomeric film layer wherein the treatment liquid (B) is a water solution or water dispersion of a polyurethane-based elastic polymer.

Regarding claim 17, Kikuchi does not expressly describe the treatment liquid infiltrates the fibrous substrate to any particular thickness other than to an extent sufficient to raise the adhesive strength which layer of treatment liquid is considered an adhesive layer (Paragraph 0038). It would have been obvious to one of ordinary skill in the art at the time the invention was made for the treatment liquid to infiltrate the fibrous substrate in Kikuchi as modified above as a function of achieving a sufficient adhesive strength wherein because the treatment liquid and fibrous substrate taught by Kikuchi as modified above are consistent and in agreement with the materials disclosed and claimed by applicants as resulting in the claimed adhesive layer infiltration one of ordinary skill in the art would expect Kikuchi as modified above to result in the same.

Regarding claim 18, Kikuchi teaches nipping the sheet material with a hot roll at a temperature of 100 to 180 °C.

5. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi and Takebe, Hanada, Retzsch, or Sagiv as applied to claims 14, 15, and 17-19 above, and further in view of Sato et al. (JP 63249787 and see also the abstract).

Kikuchi is silent as to the adhesive treatment liquid also including thermally expandable microcapsules as one of the additives. It was known in the art of forming a similar leather-like sheet material to include thermally expandable microcapsules in the adhesive to form a lightweight sheet material with high adhesive strength as shown by Sato (See the abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the adhesive treatment liquid taught by Kikuchi as modified by Takebe, Hanada, Retzsch, or Sagiv thermally expandable microcapsules as taught by Sato to form the leather-like sheet material with a light weight and a high adhesive strength. Kikuchi as modified by Sato applies the treatment liquid (A) which is a water solution or water dispersion of a polyurethane-based elastic polymer and contains thermally expandable microcapsules to the attachment surface of the fibrous substrate. Kikuchi as modified by Sato then contacts the attachment surface of the elastomeric film layer with the attachment surface of the fibrous substrate coated with liquid treatment (A) which coating is considered a treatment liquid (C) applied to the attachment surface of the elastomeric film layer wherein the treatment liquid (C) is a water solution or water dispersion of a polyurethane-based elastic polymer and contains thermally expandable microcapsules.

Response to Arguments

6. Applicant's arguments with respect to claims 14-19 have been considered but are moot in view of the new ground(s) of rejection.

In view of applicants amendment the previous rejections over Tamai (JP 06-106682 and see also the machine translation) are withdrawn.

Applicants argue, "However, Hanada and Retzsch are silent about a water-based adhesive layer. Hanada and Retzsch are silent about the feature that the adhesive layer infiltrates into a fibrous substrate, since Hanada and Retzsch only mention about a surface layer."

Hanada and Retzsch are evidence of conventional silicone water repellants including for leather-like sheets wherein the use of the silicone compound for water repellency is not a function of using the compound in a coating as opposed to as an adhesive layer.

Applicants further argue, "In contrast to this, the present invention is directed to a leather-like sheet and the adhesive layer infiltrates into the fibrous substrate. The adhesive layer of the present invention does not require smoothness, since the adhesive layer infiltrates into the fibrous substrate. "Air entrapment" is irrelevant to the present invention. Therefore, there is no reason to refer to the disclosure of Sagiv."

It is well understood in the art of adhesive bonding that air entrapment reduces the adhesive strength of the adhesive layer, e.g. as evidenced by paragraph 0034 of Kikuchi, such that it would have been obvious to include compounds in the adhesive known in the art to reduce the air entrapment as suggested by Sagiv in Kikuchi for this reason.

Applicants further argue, "The cited references are silent about the treatment liquid (A) forming an adhesive layer being a water solution or water dispersion of a polyurethane-based

elastic polymer and containing a silicone compound. The cited references are essentially silent about the infiltration of the treatment liquid into the fibrous substrate, since the references are irrelevant to an adhesion layer between the fibrous substrate and the elastomeric film layer.”.

Kikuchi discloses forming an infiltrating adhesive layer between the fibrous substrate and elastomeric film layer with a treatment liquid (A) as set forth above.

Applicants further argue, “The silicone compound forms a solidified silicone film between a fiber of the surface layer of the fibrous substrate and the surface of the adhesive due to migration thereof in the adhesive. This silicone film decreases the frictional coefficient between the fiber and the adhesive and increases the freedom of the fiber to attain flexibility. Further, the flexibility or the like moderates dynamic stimulus during friction, and even the abrasion resistance is improved (see page 10, lines 11-20 of the present application).”.

None of the claims require migration of the silicone compound, a decrease in frictional coefficient, flexibility, moderation of dynamic stimulus, or abrasion resistance. Further, Kikuchi as modified above teaches forming an infiltrating adhesive layer between the fibrous substrate and elastomeric film layer with a treatment liquid (A) as set forth above wherein the treatment liquid (A) includes a silicone compound.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **(571)272-1216**. The examiner can normally be reached on M-F (7:30 AM - 4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Katarzyna WYROZEBSKI can be reached on (571) 272-1127. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John L. Goff/
Primary Examiner, Art Unit 1746